

## Description of a new *Synaphosus* (Araneae: Gnaphosidae) species from Mt. Cangshan, Yunnan, China

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**Abstract** — A new species of the spider genus *Synaphosus* is described from Yunnan Province, China under the name of *Synaphosus cangshanus*.

**Key words** — spider, *Synaphosus*, taxonomy, new species, China

### Introduction

The Palaearctic and Palaetropical genus *Synaphosus* was established by Platnick and Shadab in 1980 with *S. syntheticus* (Chamberlin 1924) as its type species. It was first revised by Ovtsharenko, Levy & Platnick (1994) and comprised at that time 17 species. Subsequent contributions (Deeleman-Reinhold 2001; Yin, Bao & Peng 2002; Chatzaki, Thaler & Mylonas 2002; Ponomarev 2008) showed that the genus is more diverse and probably polyphyletic. The current number of recognized species is 24 (Platnick 2012). It was diagnosed by the combined presence of a preening brush on metatarsi III; elongated superior claws on tarsi IV; a long filiform embolus running clockwise in the left palp; large and flat conductor expanded into a horizontally translucent flange; a flat and sharply tipped retrolateral tibial apophysis; anterior paired epigynal pockets or unpaired hood; and long and highly twisted spermathecal ducts.

To date, only four *Synaphosus* species have been reported from Southeast Asia: *S. femininis* Deeleman-Reinhold 2001, *S. kris* Deeleman-Reinhold 2001, *S. raveni* Deeleman-Reinhold 2001, and *S. daweiensis* Yin, Bao & Peng 2002. In a recent survey of the spider fauna from Mt. Cangshan, Yunnan Province, some specimens of this genus were collected with the pit-fall method in post-fire areas. The examination of the specimens shows that they do not belong to any of the previously described species, and share all the above mentioned characters. We therefore identified it as new to science and describe it here.

### Material and methods

The format of the description and abbreviations of morphological terms follow that of Ovtsharenko, Levy &

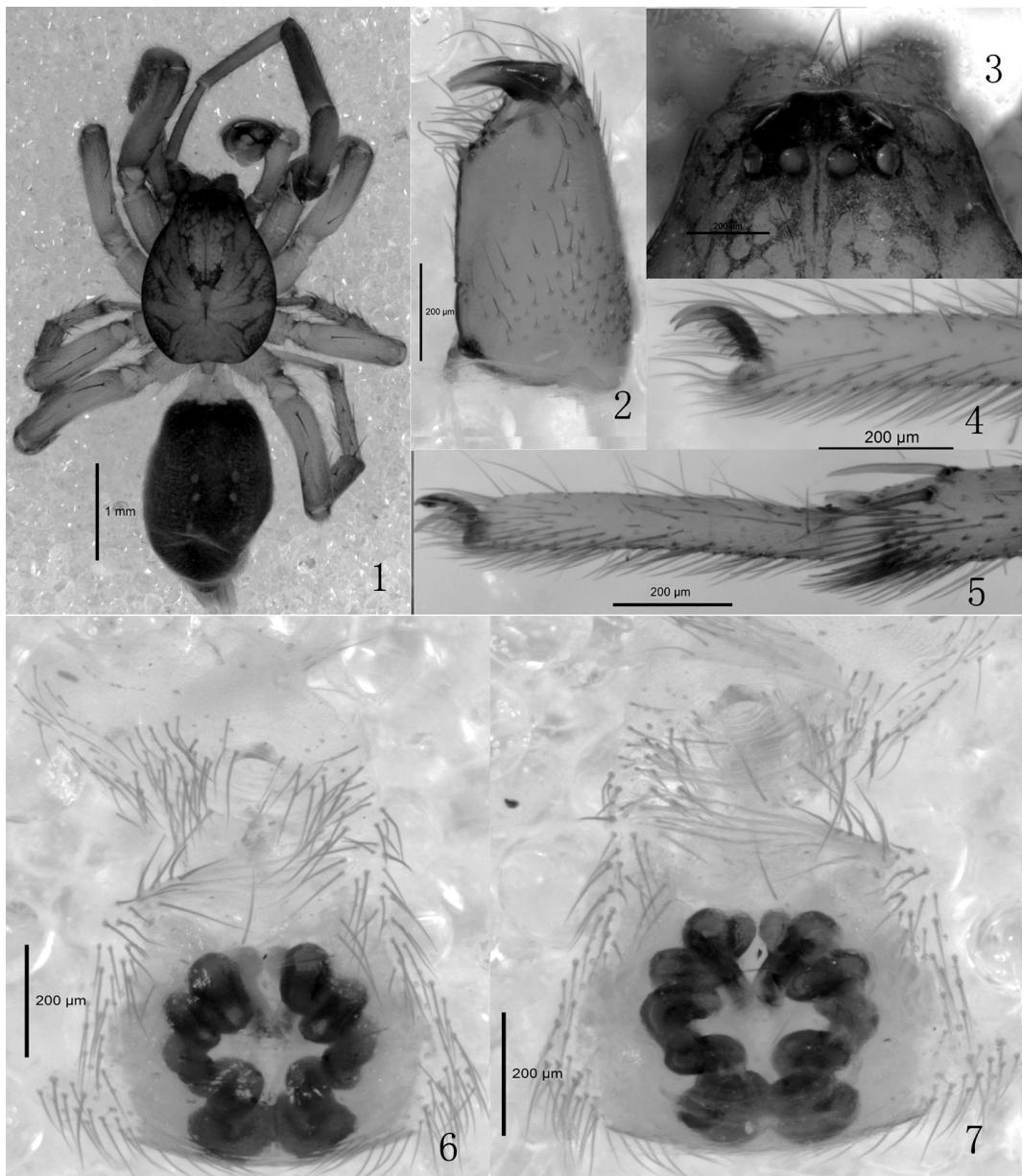
Platnick (1994) and Deeleman-Reinhold (2001). All measurements given in the text are in millimeters. All specimens are preserved in 75% alcohol and were examined, drawn and measured under a Leica M165C stereomicroscope with a drawing tube, which was also used for the measurements. Photographs were taken with Leica M205A stereomicroscope. Specimens are deposited in the Museum of Hebei University, Baoding, China (MHB) and Dali University, Dali, China (DLU).

The following abbreviations are used: ALE, anterior lateral eye; ALS, anterior lateral spinnerets; AME, anterior median eye; AME–ALE, distance between AME and ALE; AME–AME, distance between AMEs; MOA, median ocular area; PLE, posterior lateral eye; PME, posterior median eye; PME–PLE, distance between PME and PLE; PME–PME, distance between PMEs.

Gnaphosidae Pocock 1898  
*Synaphosus* Platnick & Shadab 1980  
*Synaphosus cangshanus* new species  
(Figs. 1–16)

**Types.** Holotype: Male (MHB, Ar11YN001), *Yunnan Province*, Dali City, Mt. Cangshan (25.36°N, 101.98°E), 24 December 2011, Ling Yang leg. Paratypes: 10 males and 4 females (MHB, Ar11YN002–Ar11YN015), same data as holotype, Ling Yang and Zheng-xu Bao leg. 7 males and 7 females (DLU, Ar1182–Ar1195), 20 July 2011; 7 males and 1 female (DLU, Ar1163–Ar1170), 15 June 2011, both collected from Mt. Cangshan by Zizhong Yang.

**Diagnosis.** Among the southeast Asian congeners, the male of the new species resembles that of *Synaphosus kris* (as illustrated figs. 927–928 in Deeleman-Reinhold 2001), but can easily be distinguished from the latter by: (1) palpal



**Figs. 1–7.** *Synaphosus cangshanus* new species. 1, male habitus, dorsal view; 2, male left chelicera, posterior view; 3, male eye region, dorsal view; 4, male tarsus IV, prolateral view, showing elongated superior claws; 5, male metatarsus III, prolateral view, showing preening brush; 6, epigynum, ventral view; 7, vulva, dorsal view. Scales=1 mm (1); 0.2 mm (2–7).

tibia with a long retrolateral tibial apophysis (while no retrolateral tibial apophysis in the latter); (2) conductor without teeth centrally (conductor with various teeth). The male also resembles that of *Synaphosus raveni* (as illustrated figs. 931–932 in Deeleman-Reinhold 2001), but can be distinguished from the latter by: (1) palpal tibia with longer retrolateral tibial apophysis and without proximal apophysis; (2) hook-shaped tegular projection without a row of denticles. The female of the new species is similar to that of *S. femininis* (as illustrated fig. 929 in Deeleman-Reinhold 2001), but differs from the latter by less twisted spermathecal ducts.

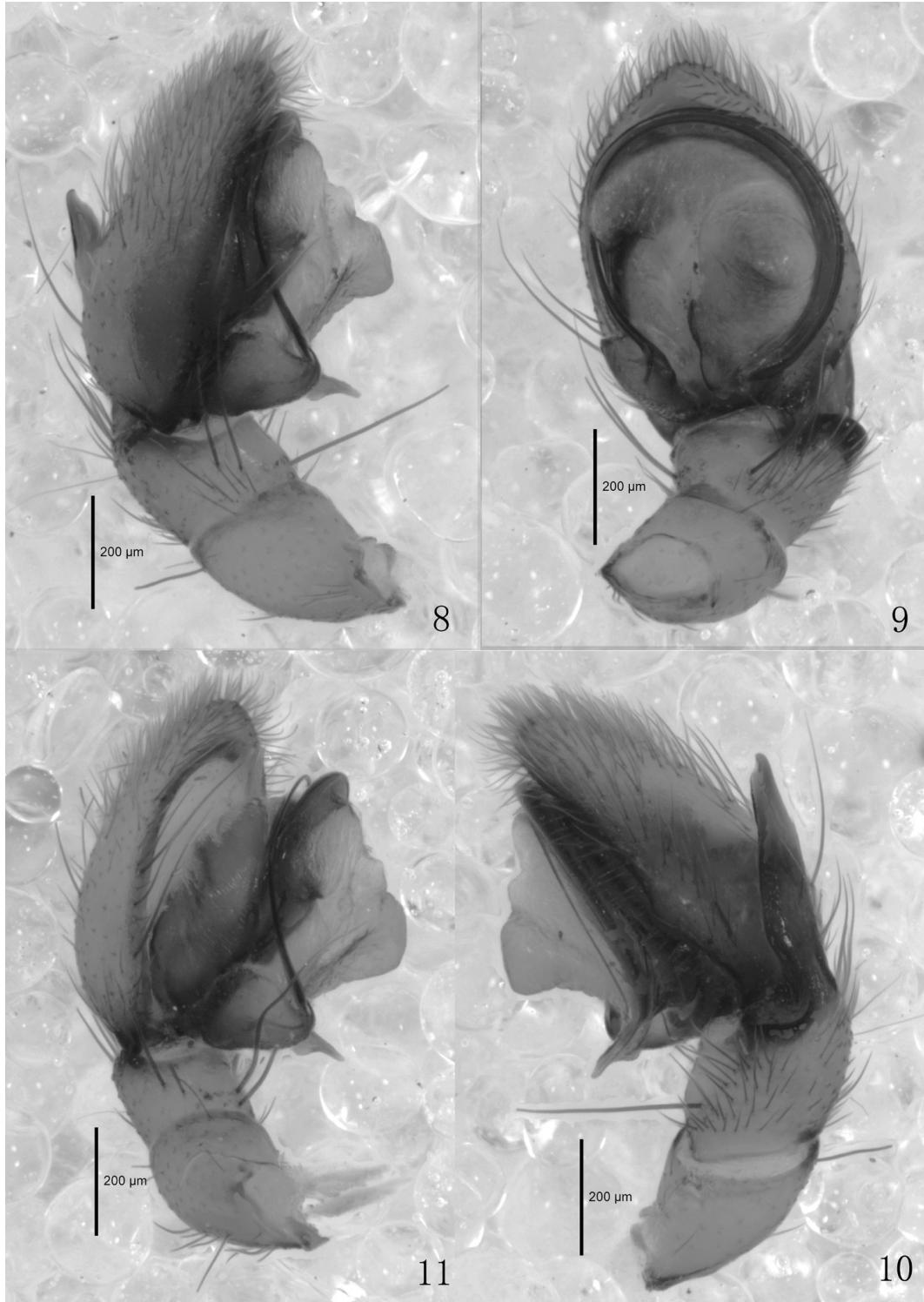
**Etymology.** The species name is an adjective derived

from the type locality.

**Description.** *Male* (holotype). Body length 3.57; carapace length 1.53, width 1.22; abdomen length 2.04, width 1.28. Carapace (Fig. 1) elongate oval in dorsal view, slightly invaginated posteriorly, narrowed at level of palps, widest behind coxae II, usually pale brown. Cephalic area flattened; radial groove indistinct; median furrow short, longitudinal. Anterior eye row recurved, posterior eye row almost straight from above (Fig. 3). AME circular, dark; PME irregularly rectangular, light; other eyes oval, light. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.08, PLE 0.10; AME–AME 0.08, AME–ALE 0.03, PME–PME 0.05, PME–PLE 0.05, ALE–PLE 0.03. MOA 0.20

long, anterior width 0.33, posterior width 0.38. Clypeal height equal to or slightly greater than AME diameter. Chelicerae yellowish brown (Fig. 2), with 4 promarginal and 3 retromarginal teeth. Endites, labium and sternum dirty white to light brown. Endites convergent, obliquely de-

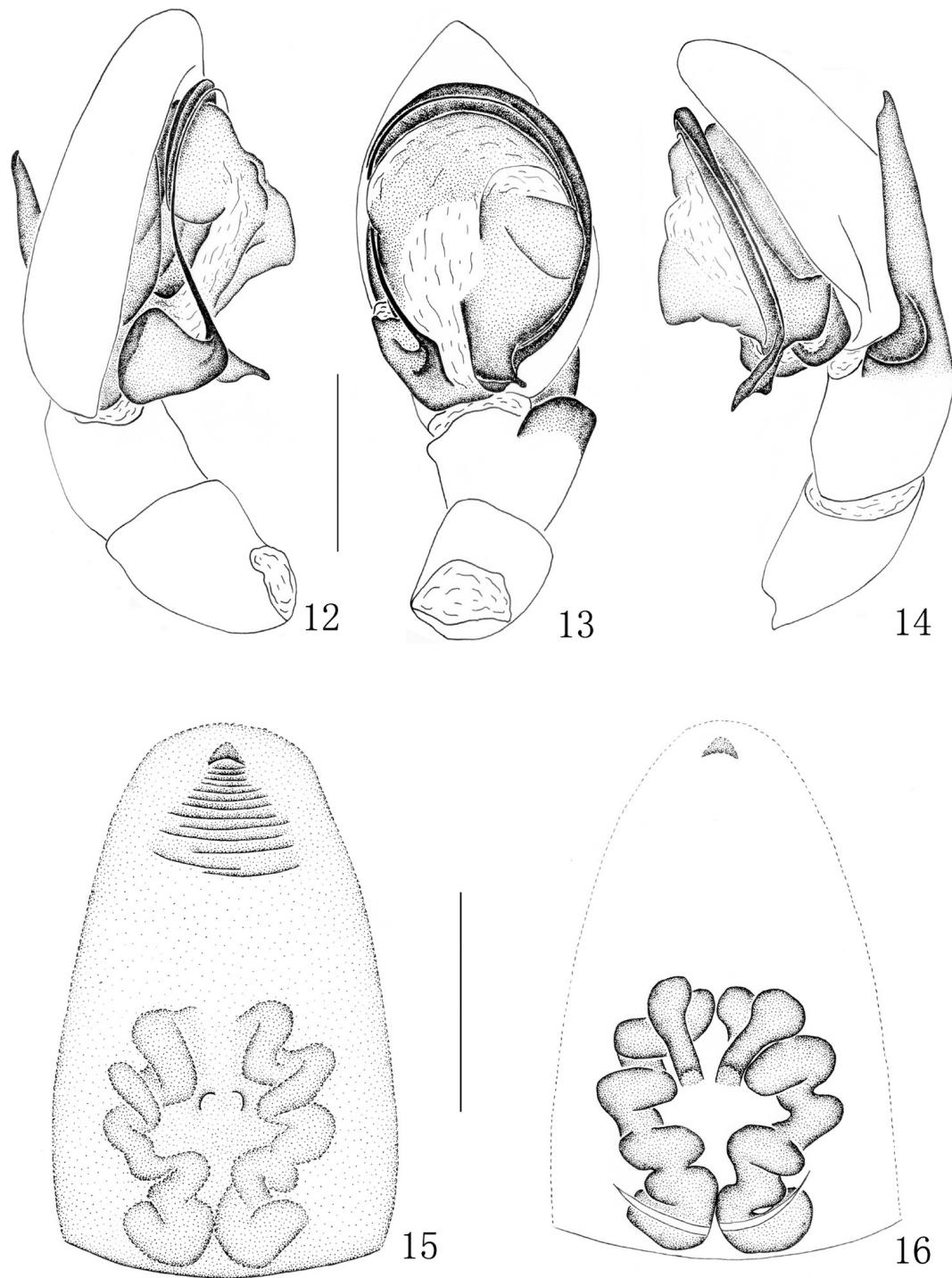
pressed, with weak distal scopula; labium slightly elongate; sternum broad anteriorly, with long setae at margins, rebordered, with tiny extensions to and between coxae. Legs light brown. Tarsi very lightly scopulate, with two dentate claws and small claw tufts; trochanters not notched.



**Figs. 8–11.** *Synaphosus cangshanus* new species. 8, left male palp, prolateral view; 9, same, ventral view; 10, same, retrolateral view; 11, same, prolateral view (slightly expanded). Scales = 0.2 mm.

Metatarsi III with distal preening brush (Fig. 5); tarsi IV with elongated superior claws (Fig. 4). Leg measurements: I 4.85 (1.38, 0.82, 1.02, 0.92, 0.71); II 3.88 (1.07, 0.61, 0.82, 0.77, 0.61); III 3.12 (0.88, 0.46, 0.56, 0.71, 0.51); IV 5.16 (1.38, 0.82, 1.07, 1.12, 0.77). Leg formula: 4123. Abdomen brown, covered by thick, plumose setae; dorsum with anterior scutum and three pairs of muscle impressions;

venter light. ALS separated at base by more than one width. Retrolateral distal margin of palpal tibia with a rebordered pocket and a long tibial apophysis (Figs. 10, 14). Bulb flat and broad, embolus long filiform, lying in groove of conductor and running clockwise in the left palp, without processes at base (Figs. 8, 11–12); base of conductor expanded into translucent flange, and with a lanceolate acute prolon-



Figs. 12–16. *Synaphosus cangshanus* new species. 12, left male palp, prolateral view; 13, same, ventral view; 14, same, retrolateral view; 15, epigynum, ventral view; 16, vulva, dorsal view. Scales=0.5 mm.

gation posteriorly, projecting transversely across the bulb (Figs. 9, 13–14).

**Female.** Body length 4.54–5.10. One female measured. Body length 5.10; carapace length 1.84, width 1.33; abdomen length 3.26, width 1.58. Eye sizes and interdistances: AME 0.08, ALE 0.13, PME 0.10, PLE 0.10; AME–AME 0.08, AME–ALE 0.03, PME–PME 0.05, PME–PLE 0.05, ALE–PLE 0.05; MOA length 0.20, anterior width 0.35, posterior width 0.40. Chelicerae brown, with 3 promarginal and 2 retromarginal teeth. Leg measurements: I 4.65 (1.33, 0.82, 1.02, 0.82, 0.66); II 3.77 (1.07, 0.61, 0.77, 0.71, 0.61); III 3.21 (0.92, 0.51, 0.56, 0.66, 0.56); IV 4.90 (1.38, 0.77, 1.02, 1.07, 0.66). Leg formula: 4123. Abdomen dorsally gray; venter light gray. Other characters as in male. Epigynum (Figs. 6–7, 15–16) with small hood much in front, separated from rest by 8–9 transverse folds which can be extended as concertina; a pair of pockets as copulatory openings. Spermathecae with long, strongly twisted anterior ducts.

**Distribution.** Presently known only from type locality.

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